

AMENDMENTS TO THE DRAWINGS

Please substitute the enclosed replacement Figures 1A, 1B, 8A, and 8B for original Figures 1A, 1B, 8A, and 8B. The figures have been amended as follows: the region now encircled by a broken line illustrates the region of “optical cavity” in each figure. The present application includes a plurality of drawings, and changes to Figures 1A, 1B, 8A, and 8B are provided as embodiments of the present invention.

Attachment: Two replacement sheets
 a) Figs. 1A and B
 b) Figs. 8A and B

REMARKS

The Examiner is thanked for the phone interview with the Applicant to clarify item 11 of the Advisory Action. As a result, claim 1 is amended to incorporate the Examiner's suggestions in item 11 of the Advisory Action.

Claims 1-18 stand examined and are rejected on various grounds. These objections and rejections in the Final Office Action are addressed in the appropriate sections below according to the currently amended claim 1.

In view of the preceding amendments and the remarks made herein, the present application is believed to be in condition for allowance.

Claim Objections

The Examiner has objected to the recitation of "associated with" in claim 1. In the amended claim 1, the term "associated with" is replaced with the language suggested by the Examiner in the Advisory Action. In addition, the relationship between the optical cavity and the p and n electrodes is clarified with the amended figures 1A and 8A. Specifically, the amended Figures 1A and 8A give examples that the p electrode that supplies current to the optical cavity, encircled by the broken line, is electrically separated into a first p electrode region 13 and second p electrode region 14.

35 U.S.C. § 103(a)

Claims 1-4 stand rejected under 35 U.S.C. § 103 as being allegedly obvious over U.S. Patent No. 6,121,634 to Saito et al. (hereinafter Saito), in view of U.S. Patent No. 4,146,883 to Appeldorn et al. (hereinafter Appeldorn). Applicants respectfully traverse this rejection as it applies to claims 1-4.

Applicants submit that both Saito and Appeldorn fail to disclose each and every element recited in the independent claim 1. In particular, both Saito and Appeldorn fail to disclose the

elements of “a p-electrode divided into at least two regions, an n-electrode divided into at least two regions, wherein all the regions of the p-electrode and/or n-electrode share the optical cavity.”

In the Final Office Action, the Examiner acknowledges that Saito does not disclose the limitation that “said p-electrode and/or said n-electrode are [sic] electrically separated into at least two regions,” but Appeldorn discloses this feature in figures 6-7 and in column 5 lines 29-32. Specifically, column 5 lines 29-32 of Appeldorn states that:

Referring also to FIG. 6, in a preferred embodiment, each chip 27 has a plurality of electrodes 34--34 bonded to an insulating layer 35, such as silicon nitride, formed on the upper surface 36 of epitaxial layer 45. The electrodes 34--34 define light-emitting areas and provide electrical connections to the chip.

As indicated above, the Appeldorn reference discloses a plurality of electrodes as opposed to separating a p-electrode or an n-electrode into at least two regions. Figure 7 of Appeldorn further illustrates this point. The two p-n junctions are two independently operated light emitting diodes. Each p-n junction is controlled to provide light to a particular segment of the letter “8” (see Appeldorn, Figure 3). In order to perform this function, p-n junctions must have different optical cavities, and the corresponding electrodes supply different electric current to the different optical cavities. Unlike Appeldorn, the regions of the p-electrode or n-electrode share one optical cavity. Thus, the combination of Saito and Appeldorn fail to disclose each and every element of claim 1.

In addition, both Saito and Appeldorn do not teach or suggest any solution to address the problem of thermal hysteresis during the manufacturing of the light emitting device, and do not teach or suggest any solution for reducing the optical feedback noise in the light emitting device. Therefore, it would not have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Saito and Appeldorn to address these problems the current invention is intended to solve. It is respectfully submitted that the independent claims 1 and its corresponding dependent claims 2-18 are allowable over the cited prior art references.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 245402008000. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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Attachments